

**REMARKS/ARGUMENTS**

By this Amendment, claims 1 and 7 have been amended. Accordingly, claims 1-7 are pending in the present application.

Applicants wish to thank the Examiner for the indication of allowable subject matter in claim 7. In response, claim 7 has been rewritten in independent form to include all of the limitations of the base claim and any intervening claims. Accordingly, indication of allowance of claim 7 is respectfully requested.

The objection to claim 1 is noted. In response, claim 1 has been amended as suggested by the Examiner. Accordingly, withdrawal of this objection is respectfully requested.

Claims 1-3 stand rejected under 35 U.S.C. §102(b) as being unpatentable over U.S. Patent No. 6,087,911 to Tada, et al. Applicants respectfully traverse this rejection.

Among the limitations of independent claim 1 which are neither disclosed nor suggested in the prior art of record is a dielectric filter which includes, *inter alia*, a dielectric block having a plurality of conductive through holes which each have an open end along a first surface of the dielectric block and “a respective coupling electrode connected to each conductive through hole, each coupling electrode formed on the first surface of the dielectric block and extending at least to a first edge of the dielectric block, the respective coupling electrodes having a continuous, non-conductive gap therebetween and generating a capacitance therebetween so as to couple the conductive through holes” (emphasis added).

Tada, et al. neither discloses nor suggests a dielectric filter having coupling electrodes separated by a continuous, non-conductive gap and located on the surface of the dielectric block having the open ends of the conductive through holes, as required by

independent claim 1. Tada, et al. shows in Fig. 14 that the coupling electrodes 17 and 18 of the conductive through holes 14 extend to an edge of the dielectric block and that the outer conductor 15 is continuous and extends between the two coupling electrodes 17 and 18. Accordingly, Tada, et al. fails to teach or suggest each and every limitation as defined in independent claim 1.

In fact, inasmuch as Tada, et al. teaches that a conductive material is located between the coupling electrodes, it teaches away from the present invention as defined in independent claim 1. Accordingly, it is respectfully submitted that independent claim 1 patentably distinguishes over the art of record.

Claims 2 and 3 depend directly from independent claim 1 and include all of the limitations found therein. Each of these dependent claims include additional limitations which, in combination with the limitations of independent claim 1, are neither disclosed nor suggested in the prior art record. Accordingly, claims 2 and 3 are likewise patentable.

Claims 4-6 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Tada, et al. in view of U.S. Patent No. 6,351,198 to Tsukamoto, et al. Applicants respectfully traverse this rejection.

As described above, Tada, et al. does not teach or suggest coupling electrodes separated by a continuous, non-conductive gap and located on the surface of the dielectric block having the open ends of the conductive through holes.

Applicants respectfully submit that the use of Tsukamoto, et al. as a reference is improper. Effective November 29, 1999, 35 U.S.C. §103(c) provides a subject matter developed by another which qualifies as prior art only under one or more of subsections 35 U.S.C. §102(e), (f) and (g) is not to be considered when determining whether an invention sought to be patented is obvious under §103, provided the subject matter and

the claimed invention were commonly owned at the time the invention was made or subject to an obligation of assignment to the same person.

Tsukamoto, et al. is a patent which is assigned to the Murata Manufacturing Co., Ltd. The present application is also assigned to the Murata Manufacturing Co., Ltd. Tsukamoto, et al. has a filing date prior to that of the present application and an issue date after the filing date of the present application. Thus, Tsukamoto, et al. is a §102(e) reference and should not be considered by the Examiner in determining obviousness of the present application under §103. Accordingly, withdrawal of this rejection is respectfully requested.

In view of the foregoing, favorable consideration of the amendments to claims 1 and 7, and allowance of the application with claims 1-7 is respectfully and earnestly solicited.

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Respectfully submitted,

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**APPENDIX A**  
**“Clean” Version of Each Paragraph/Section/Claim**  
**37 CFR 1.121(b)(1)(ii) AND (c)(1)(i)**

**Claims:**

*Sub C7*

1. (Amended) A dielectric filter comprising:  
a dielectric block;  
a plurality of conductive through holes arranged in the dielectric block, each of  
the conductive through holes having an open end along a first surface of the dielectric  
block;  
a respective coupling electrode connected to each conductive through hole, each  
coupling electrode formed on the first surface of the dielectric block and extended at least  
to a first edge of the dielectric block, the respective coupling electrodes having a  
continuous, non-conductive gap therebetween and generating a capacitance therebetween  
so as to couple the plurality of conductive through holes; and  
an outer conductor arranged on outer surfaces of the dielectric block.

*b1 b2*

7. (Amended) A dielectric filter comprising:  
a dielectric block;  
a plurality of conductive through holes arranged in the dielectric block, each of  
the conductive through holes having a open end along a first surface of the dielectric block;  
a respective coupling electrode connected to each conductive through hole, each  
coupling electrode formed on the first surface of the dielectric block and extended at least  
to a first edge of the dielectric block, the respective coupling electrodes having a gap  
therebetween and generating a capacitance therebetween so as to couple the plurality of  
conductive through holes; and  
an outer conductor arranged on outer surfaces of the dielectric block; and

*B7 CnE*

input/output electrodes arranged on a third surface of the dielectric block and extending from a second edge, opposing the first edge, to generate capacitances between the open ends of the conductive through holes and the input/output electrodes, wherein the coupling electrodes further extend onto a second surface of the dielectric block which intersects the first edge of the dielectric block.

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**APPENDIX B**  
**Version With Markings To Show Changes Made**  
**37 CFR 1.121(b)(iii) AND (c)(ii)**

**Claims:**

1. (Amended) A dielectric filter comprising:  
a dielectric block;  
a plurality of conductive through holes arranged in the dielectric block, each of  
the conductive through holes having [a] an open end along a first surface of the dielectric  
block;  
a respective coupling electrode connected to each conductive through hole, each  
coupling electrode formed on the first surface of the dielectric block and extended at least  
to a first edge of the dielectric block, the respective coupling electrodes having a  
continuous, non-conductive gap therebetween and generating a capacitance therebetween  
so as to couple the plurality of conductive through holes; and  
an outer conductor arranged on outer surfaces of the dielectric block.

7. (Amended) A [The] dielectric filter [according to Claim 2, further]  
comprising:

a dielectric block;  
a plurality of conductive through holes arranged in the dielectric block, each of  
the conductive through holes having a open end along a first surface of the dielectric block;  
a respective coupling electrode connected to each conductive through hole, each  
coupling electrode formed on the first surface of the dielectric block and extended at least  
to a first edge of the dielectric block, the respective coupling electrodes having a gap  
therebetween and generating a capacitance therebetween so as to couple the plurality of  
conductive through holes; and  
an outer conductor arranged on outer surfaces of the dielectric block; and

input/output electrodes arranged on a third surface of the dielectric block and extending from a second edge, opposing the first edge, to generate capacitances between the open ends of the conductive through holes and the input/output electrodes,

wherein the coupling electrodes further extend onto a second surface of the dielectric block which intersects the first edge of the dielectric block.

**APPENDIX C**  
**Complete Set of "Clean" Claims**  
**37 CFR 1.121(c)(3)**

1. A dielectric filter comprising:
  - a dielectric block;
  - a plurality of conductive through holes arranged in the dielectric block, each of the conductive through holes having an open end along a first surface of the dielectric block;
  - a respective coupling electrode connected to each conductive through hole, each coupling electrode formed on the first surface of the dielectric block and extended at least to a first edge of the dielectric block, the respective coupling electrodes having a continuous, non-conductive gap therebetween and generating a capacitance therebetween so as to couple the plurality of conductive through holes; and
  - an outer conductor arranged on outer surfaces of the dielectric block.
2. The dielectric filter according to Claim 1, wherein the coupling electrodes further extend onto a second surface of the dielectric block which intersects the first edge of the dielectric block.
3. The dielectric filter according to Claim 1, further comprising input/output electrodes arranged on a second surface of the dielectric block and extending from a second edge, opposing the first edge, to generate capacitances between the open ends of the conductive through holes and the input/output electrodes.
4. A dielectric duplexer comprising a pair of dielectric filters according to Claim 3, one input/output electrode of one filter being usable as a transmission-signal input electrode, one input/output electrode of the other filter being usable as a reception-signal

output electrode, and the other respective input/output electrodes of both filters being connected together and to an antenna-connecting electrode.

5. A communication apparatus comprising a high-frequency circuit and, connected thereto, the dielectric filter according to one of Claims 1 and 2.

6. A communication apparatus comprising a high-frequency circuit and, connected thereto, the dielectric duplexer according to Claim 4.

7. A dielectric filter comprising:

a dielectric block;

a plurality of conductive through holes arranged in the dielectric block, each of the conductive through holes having a open end along a first surface of the dielectric block;

a respective coupling electrode connected to each conductive through hole, each coupling electrode formed on the first surface of the dielectric block and extended at least to a first edge of the dielectric block, the respective coupling electrodes having a gap therebetween and generating a capacitance therebetween so as to couple the plurality of conductive through holes; and

an outer conductor arranged on outer surfaces of the dielectric block; and

input/output electrodes arranged on a third surface of the dielectric block and extending from a second edge, opposing the first edge, to generate capacitances between the open ends of the conductive through holes and the input/output electrodes,

wherein the coupling electrodes further extend onto a second surface of the dielectric block which intersects the first edge of the dielectric block.